# NEVADA DIVISION OF ENVIRONMENTAL PROTECTION
# FACT SHEET

(pursuant to NAC 445A.236)

**Permittee Name**: Town of Round Mountain Public Utilities
P.O. Box 1369
Round Mountain, NV 89045-1369

**Permit Number**: NEV87032

**Location**: Hadley Wastewater Treatment Facility (WWTF)
1100 Big Creek Road
Round Mountain, Nye County NV 89045
Latitude: 38° 42' 10"N, Longitude: 117° 09' 08"W
Township 10N, Range 43E, Section 28

**General**: The Town of Round Mountain operates the Hadley WWTF. In February 1999, Round Mountain Gold Corporation transferred ownership and operation of the WWTF to the Town of Round Mountain. According to the public utility, sewer and water service is provided to approximately 1,400 residents through 450 residential and commercial connections. There are no industrial connections. The town's influent is collected in an 8" PVC gravity main where screenings are removed at the town's single lift station. A 4" PVC force main then discharges to the ponds. Biological (secondary) wastewater treatment is performed in three HDPE-lined, aerated (partial-mix) treatment ponds, which are operated in a series flow arrangement. Each treatment pond contains 8 ft. of water and covers 0.58-acre. The treatment ponds are equipped with (18) 2-Hp floating aerators, and seven of the eighteen aerator units are usually run to provide sufficient dissolved oxygen and minimize objectionable odors. Effluent polishing proceeds in a 2.8-acre secondary pond. Treated effluent is then discharged to (3) 0.5-acre/each RIBs.

The facility periodically exceeds its 90-mg/L TSS limitation because of pond algal blooms. To limit algae growth, the facility initially used AQUASHADE®, which is a blue-green dye used to inhibit algae growth. The facility has discontinued AQUASHADE® and is now trying barley straw. When barley straw decomposes in water, an enzyme is released which inhibits new algal growth, but fish, plants and other aquatic life are not affected, according to the literature. The Division recognizes barley straw as a relatively new approach in Nevada for controlling algae blooms in wastewater treatment ponds. In order to evaluate this approach and determine whether it is an effective algal control method, the facility is requested to submit a summary report of its barley straw treatment trial. The report shall discuss outcomes, tested dosages (addition rates, dosing frequency) and list any potential drawbacks or failures. Copies of any photographs that were taken during this trial should also be included, if available (see Schedule of Compliance Requirements below).

**Flow**: The facility is permitted for a capacity of 0.16 MGD, and the 30-day average flow is presently 0.07 MGD, equivalent to 50 gpd/resident. According to the facility, any future growth in the town's wastewater demand is highly dependent on mining operations since Round Mountain Gold Corporation employs approximately one-half of the town's residents.

**Receiving Water Characteristics**: Treated effluent is discharged to the groundwater via disposal in three RIBs. Depth to groundwater is 85 ft., and groundwater moves from west to east. Currently, the facility monitors three wells. HWWT-3 is an upgradient well located near the community's golf course. The nitrate as nitrogen level in HWWT-3 is presently below 1.0 mg/L. HWWT-1 and HWWT-2 are downgradient wells; both located approximately 20 ft. downgradient of the last RIB berm, i.e., RIB #3. According to the DMR results (i.e., 1st Quarter 2003), HWWT-1 and HWWT-2 have indicated nitrate as nitrogen levels of 7.1 and 8.9 mg/L, respectively. The permit (Part I.A.13) requires the facility to select and submit an alternative method of effluent disposal, e.g., nitrogen reduction, when a monitoring well indicates nitrate levels in excess of 7.0 mg/L. The increase in nitrate levels in the downgradient wells is likely due to their close proximity to the RIBs, i.e., capture of the effluent mounding effect. To resolve this issue, the Division is requiring the facility to install a replacement downgradient monitoring well, which shall be sited from 150 to 250 ft. downgradient of RIB #3. Relocation of a well is required to provide more representative groundwater monitoring results. Upon installation, sampling at the new well will replace sampling requirements for the three existing wells and reduce the number of samples by ⅔ (i.e., one well sampled vs. three). If the groundwater nitrate level is elevated further downgradient at the new monitoring well site, then plans for an alternative method of effluent disposal must be submitted.

**Proposed Effluent Limitations and Special Conditions:**

**Table 1: Plant Discharge Limitations**

| PARAMETER | DISCHARGE LIMITATIONS | | MONITORING REQUIREMENTS | |
|---|---|---|---|---|
| | 30-Day Average | Daily Maximum | Measurement Frequency | Sample Type |
| Flow, MGD | 0.16 | | Continuous | Flow Meter |
| CBOD, mg/L (Influent) | Monitor & Report | | Quarterly | Discrete |
| CBOD, mg/L (Effluent) | 30 | 45 | Monthly | Discrete |
| TSS, mg/L (Influent) | Monitor & Report | | Quarterly | Discrete |
| TSS, mg/L (Effluent) | 90 | | Monthly | Discrete |
| pH, Std. Units (Effluent) | Between 6.0 – 9.0 | | Quarterly | Discrete |

**Table 2: Groundwater Monitoring**

| PARAMETER | GROUNDWATER LIMITATIONS | MONITORING REQUIREMENTS | |
|---|---|---|---|
| | | Measurement Frequency | Sample Type |
| TDS, mg/L | Monitor & Report | Quarterly | Discrete |
| Chlorides, mg/L | Monitor & Report | Quarterly | Discrete |
| Nitrate as N, mg/L | 10.0 | Quarterly | Discrete |
| Total Nitrogen as N, mg/L | Monitor & Report | Quarterly | Discrete |
| Depth to Groundwater, ft | Monitor & Report | Quarterly | Field Measurement |
| Groundwater Elevation, ft | Monitor & Report | Quarterly | Field Measurement |

**Schedule of Compliance:** The Permittee shall submit the following items to the Division for review and approval (**all compliance deliverables shall be addressed to the attention of the Compliance Coordinator, Bureau of Water Pollution Control**):

- Within thirty (30) days of the permit issuance date, the Permittee shall submit a summary report of its barley straw treatment trial. The report shall discuss outcomes, tested dosages (addition rates, dosing frequency) and list any potential drawbacks or failures. Copies of any photographs that were taken during this trial should also be included, if available.

- Within ninety (90) days of the permit issuance date, the Permittee shall submit plans for the installation of a downgradient monitoring well, which is to be located 150-250 ft. downgradient of RIB #3. The design and installation of this monitoring well shall be prepared in accordance with the Division's WTS-4 guidance document: *Guidance Document for Design of Groundwater Monitoring Wells*. The monitoring well shall be labeled and installed with a locking cap.

**Procedures for Public Comment:** The Notice of the Division's intent to issue (renew) a groundwater discharge permit to Round Mountain Public Utilities for operation of the Hadley Subdivision WWTF, subject to the conditions contained within the permit is being sent to the **Tonopah Times-Bonanza & Goldfield News** for publication. The notice is being mailed to interested persons on our mailing list. Anyone wishing to comment on the proposed permit can do so in writing for a period of thirty (30) days following the date of publication of the public notice in the newspaper. The comment period can be extended at the discretion of the Administrator. The deadline date and time by which all comments are to be submitted (via postmarked mail or time-stamped faxes, e-mails, or hand-delivered items) to the Division is **August 22, 2003 by 5:00 P.M.** A copy of the public notice and fact sheet can also be downloaded from the Division's website at the

following address: http://ndep.nv.gov/admin/public.htm

A public hearing on the proposed determination can be requested by the applicant, any affected State, any affected interstate agency, the Regional Administrator or any interested agency, person or group of persons.

The request must be filed within the comment period and must indicate the interest of the person filing the request and the reasons why a hearing is warranted.

Any public hearing determined by the Administrator to be held must be conducted in the geographical area of the proposed discharge or any other area the Administrator determines to be appropriate. All public hearings must be conducted in accordance with NAC 445A.238.

The final determination of the Administrator may be appealed to the State Environmental Commission pursuant to NRS 445A.605.

**Proposed Determination:** The Division has made the tentative determination to issue (renew) the proposed groundwater discharge permit for a period of five (5) years.

Prepared by: Mark A. Kaminski, P.E.
Staff Engineer III
Bureau of Water Pollution Control

Date: July 16, 2003

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